

WE CLAIM:

1. A sewing apparatus comprising:

a needle bar;

5 a needle bar vertically moving mechanism vertically moving the needle bar;

a needle bar position changing operation unit operated via the needle bar vertically moving mechanism to change a vertical position of the needle bar;

10 a thread cassette having a thread accommodating section accommodating a supply of thread;

a cassette mount to which the thread cassette is detachably attached;

15 a cassette detector detecting the thread cassette attached to the cassette mount; and

a needle bar position changing control unit controlling the needle bar vertically moving mechanism so that in a case where the needle bar position changing unit has been operated, the needle bar is changed from an upper stop position to a lower stop position  
20 or from the lower stop position to the upper stop position according to a position of the needle bar at the time of operation of the needle bar position changing unit when the thread cassette is attached to the cassette mount according to a result of detection by the cassette detector, the needle bar position changing control  
25 unit further controlling the needle bar vertically moving mechanism so that the needle bar is changed to the upper stop position irrespective of the position of the needle bar at the time of operation of the needle bar position changing unit when

the thread cassette is unattached to the cassette mount according to the result of detection by the cassette detector.

2. A sewing apparatus according to claim 1, wherein the needle  
5 bar position changing control unit controls the needle bar vertically moving mechanism so that when the thread cassette is unattached to the cassette mount according to the result of detection by the cassette detector and the needle bar is at the upper stop position, the needle bar is changed to the lower stop  
10 position once and subsequently to the upper stop position.

3. A sewing apparatus according to claim 1, further comprising a threading mechanism passing the thread drawn from the thread cassette through an eye of a needle attached to the  
15 needle bar when the thread cassette is attached to the cassette mount, wherein the upper stop position is determined so that the threading mechanism is operable to pass the thread drawn from the thread cassette through the needle eye.

20 4. A needle bar position changing control program for a sewing apparatus including a needle bar, a needle bar vertically moving mechanism vertically moving the needle bar, a needle bar position changing operation unit operated via the needle bar vertically moving mechanism to change a vertical position of the needle bar,  
25 a thread cassette having a thread accommodating section accommodating a supply of thread, a cassette mount to which the thread cassette is detachably attached, and a cassette detector detecting the thread cassette attached to the cassette mount,

the program executing on a computer a control for changing a position of the needle bar and comprising the routines of:

controlling the needle bar vertically moving mechanism so that in a case where the needle bar position changing unit has  
5 been operated, the needle bar is changed from an upper stop position to a lower stop position or from the lower stop position to the upper stop position according to a position of the needle bar at the time of operation of the needle bar position changing unit when the thread cassette is attached to the cassette mount  
10 according to a result of detection by the cassette detector; and  
controlling the needle bar vertically moving mechanism so that the needle bar is changed to the upper stop position irrespective of the position of the needle bar at the time of operation of the needle bar position changing unit when the thread  
15 cassette is unattached to the cassette mount according to the result of detection by the cassette detector.

5. A sewing apparatus comprising:

a needle bar;  
20 a needle bar vertically moving mechanism vertically moving the needle bar;  
a needle bar position changing operation unit operated via the needle bar vertically moving mechanism to change a vertical position of the needle bar;  
25 a thread cassette having a thread accommodating section accommodating a supply of thread;  
a cassette mount to which the thread cassette is detachably attached;

a cassette detector detecting the thread cassette attached to the cassette mount; and

a needle bar position changing control unit controlling the needle bar vertically moving mechanism so that in a case where  
5 the needle bar position changing unit has been operated, the needle bar is changed to an upper stop position irrespective of a position of the needle bar at the time of operation of the needle bar position changing unit when the thread cassette is unattached to the cassette mount according to the result of detection by the cassette  
10 detector.

6. A sewing apparatus according to claim 5, wherein the needle bar position changing control unit controls the needle bar vertically moving mechanism so that when the thread cassette is  
15 unattached to the cassette mount according to the result of detection by the cassette detector and the needle bar is at the upper stop position, the needle bar is changed to the lower stop position once and subsequently to the upper stop position.

20 7. A sewing apparatus according to claim 5, further comprising a threading mechanism passing the thread drawn from the thread cassette through an eye of a needle attached to the needle bar when the thread cassette is attached to the cassette mount, wherein the upper stop position is determined so that the  
25 threading mechanism is operable to pass the thread drawn from the thread cassette through the needle eye.